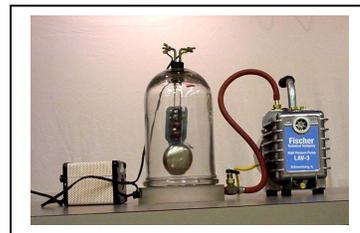


Activity #3—Student Response Sheet (ANSWER KEY)

Title: Transmission of Longitudinal (sound) Waves



1. I predict that the **solid, liquid or gas** phase will conduct sound the poorest. The **solid, liquid or gas** phase of matter will be second best and the **solid, liquid or gas** phase of matter will conduct sound the best. (Choose answers from **solid, liquid or gas**.)
 - 2a. I **was not** (**was, was not**) able to hear the ticking of the watch from one meter away.
 - 2b. When the watch was placed on one end of the metal rod, the sound of its ticking **was relatively easy to hear**.
 - 3a. The sound made by the suspended coat hanger was **rather soft and hard to hear**.
 - 3b. The sound of the vibrating coat hanger was carried to my ears by the **gas** phase of matter.
 - 3c. The sound of the coat hanger when my fingers were inserted into the loops of the string and then allowed to touch my ears was **very loud---sounded like church bells**.
 - 3d. The **solid** phase of matter was carrying this sound to my ears.
 - 4a. Examples of sounds that were carried to my ears by liquids or solids are **answers will vary---but such responses as “putting a glass to the wall to hear sounds on the other side” are typical**.
 - 4b. My REVISED prediction for the ranking of the phases of matter to conduct sound energy is the **gas (typical response)** phase is poorest, **the liquid phase** is second and the **solid** phase is the best.
5. I predict that the volume of the sound source inside of the bell jar will **decrease** (**increase, decrease, remain the same**) when the air within is removed.
 - 6a. I predict that the volume of the sound source will **increase** as the air is allowed to re-enter the bell jar.
 - 6b. Communication in the vacuum of outer space must be accomplished by **the use of walkie-talkies,--or radio communication in general**.